Amendments to the Claims:

Re-write the claims as set forth below. This listing of claims will replace all prior versions and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for interpolating pixel parameter values based on a plurality of vertex values, the method comprising:

while in a setup mode in a system, generating a plurality of differential geometric values based on the plurality of vertex values, wherein the differential geometric values are independent of a parameter slope between the plurality of vertex values;

while in a calculation mode in a system, for each of a plurality of pixels:

determining a first geometric value and a second geometric value based on a pixel location value, the plurality of vertex values and the differential geometric values; and

determining an interpolated pixel parameter value for each of the plurality of pixels based on a vertex parameter value, the first geometric value and the second geometric value.

2. (previously presented) The method of claim 1 further comprising:

while in the setup mode, writing the plurality of differential geometric values to a temporary buffer; and

while in the calculation mode, reading the plurality of differential geometric values from the temporary buffer for the calculation of the interpolated pixel parameter value for each of the plurality of pixels.

3. (previously presented) The method of claim 1 wherein the interpolated pixel parameter value is further determined based on the first geometric value adjusted by a first differential value and the second geometric value adjusted by a second differential value.

4. (original) The method of claim 3 wherein the plurality of vertex values includes a first vertex value, a second vertex value and a third vertex value.

5. (previously presented) The method of claim 4 wherein the step of determining the interpolated pixel parameter value further comprises:

combining the first vertex value, the first geometric value adjusted by the first differential value and the second geometric value adjusted by the second differential value.

6. (previously presented) The method of claim 4 wherein the plurality of differential geometric values includes a first differential geometric value and a second differential geometric value, the step of generating the first geometric value includes:

determining the sum of the product of a first difference and the first differential geometric value and the product of a second difference and the second differential geometric value, wherein:

the first difference is the difference between a first_plane pixel location value and a first_plane zero_vertex parameter;

the first differential geometric value is the difference between a second_plane zero_vertex parameter and a second_plane second_vertex parameter;

the second difference is the difference between the second_plane pixel location value and a second_plane zero_vertex parameter; and

the second differential geometric value is the difference between the first_plane zero_vertex parameter and a first_plane second_vertex parameter.

7. (original) The method of claim 6 wherein the plurality of differential geometric values includes a third differential geometric value, the step of generating the second geometric value includes:

determining the sum of the product of the first difference and the third differential geometric value and the product of the third difference and the fourth differential geometric value, wherein:

the third differential geometric value is the difference between a second_plane first_vertex parameter and the second_plane zero_vertex parameter; and

the fourth differential geometric value is the difference between a first_plane first_vertex parameter and the first_plane zero_vertex parameter.

8. (original) The method of claim 7 wherein the first differential value is the difference between a second vertex value and the first vertex value, the difference divided by a twice_area value and the second differential value is the difference between a third vertex value and the first vertex value, the difference divided by a twice_area value.

9. (original) The method of claim 8 wherein the twice_area value is a difference between a product of a difference between the first_plane second_vertex parameter and the

first_plane zero_vertex parameter and a difference between the second_plane first_vertex parameter and the second_plane zero_vertex parameter and a product of a difference between the first_plane zero_vertex parameter and the first_plane first_vertex parameter and a difference between the second_plane zero_vertex parameter and the second_plane second_vertex parameter.

10. (previously presented) An apparatus for interpolating pixel parameters based on a plurality of vertex values, the apparatus comprising:

a processor;

a temporary buffer operably coupled to the processor; and

a memory operably coupled to the processor, the memory storing a plurality of executable instructions such that the processor, in response to the executable instructions:

while in a setup mode, generates a plurality of differential geometric values based on the plurality of vertex values, wherein the differential geometric values are independent of a parameter slope between the plurality of vertex values;

while in a calculation mode, for each of a plurality of pixels:

determines a first geometric value and a second geometric value based on a pixel location value, the plurality of vertex values and the differential geometric values; and

determines an interpolated pixel parameter value for each of the plurality of pixels based on a vertex parameter value, the first geometric value and the second geometric value.

11. (previously presented) The apparatus of claim 10 wherein the processor, in response to the executable instructions:

while in the setup mode, writes the plurality of differential geometric values to a temporary buffer; and

while in the calculation mode, reads the plurality of differential geometric values from the temporary buffer for the calculation of the interpolated pixel parameter value for each of the plurality of pixels.

12. (previously presented) The apparatus of claim 10 wherein the processor, in response to the executable instructions, determines the interpolated pixel parameter value based on the first geometric value adjusted by a first differential value and the second geometric value adjusted by a second differential value.

13. (previously presented) The apparatus of claim 12 wherein the processor, in response to the executable instructions further includes determining the interpolated pixel parameter value by summing the vertex parameter value, the first geometric value adjusted by the first differential value and the second geometric value adjusted by the second differential value.

14. (original) The apparatus of claim 12 wherein the processor, in response to the executable instructions determines the first differential value as the difference between a second vertex value and a first vertex value, the difference divided by a twice_area value and the second

differential value is the difference between a third vertex value and the first vertex value, the difference divided by the twice_area value.

15. (previously presented) The apparatus of claim 14 wherein the twice_area value is a difference between a product of a difference between a first_plane second_vertex parameter and a first_plane zero_vertex parameter and a difference between a second_plane first_vertex parameter and a second_plane zero_vertex parameter and a product of a difference between a first_plane zero_vertex parameter and a first_plane first_vertex parameter and a difference between the second_plane zero_vertex parameter and a second_plane second_vertex parameter.

16. (previously presented) The apparatus of claim 10 wherein the processor, in response to the executable instructions:

generates the first geometric value by the sum of the product of a first difference and a first differential geometric value and the product of a second difference and a second differential geometric value, wherein:

the first difference is the difference between a first_plane pixel location value and first_plane zero_vertex parameter;

the first differential geometric value is the difference between a second_plane zero_vertex parameter and a second_plane second_vertex parameter;

the second difference is the difference between the second_plane pixel location value and a second_plane zero_vertex parameter; and

the second differential geometric value is the difference between the first_plane zero_vertex parameter and a first_plane second_vertex parameter; and

generates the second geometric value the sum of the product of the first difference and a third differential geometric value and the product of the third difference and a fourth differential geometric value, wherein:

the third differential geometric value is the difference between a second_plane first_vertex parameter and the second_plane zero_vertex parameter; and

the fourth differential geometric value is the difference between a first_plane first_vertex parameter and the first_plane zero_vertex parameter.

17. (original) The apparatus of claim 10 further comprising:

a shader operably coupled to the processor such that the shader is capable of receiving the plurality of pixels and generates a plurality of display pixels; and

a frame buffer coupled to the shader such that the frame buffer receives the plurality of display pixels therefrom.

18. (original) A method for interpolating pixel parameters based on a plurality of vertex values, the method comprising:

receiving a zero vertex value;

receiving a first vertex value;

receiving a second vertex value;

generating a first differential geometric value and a second differential geometric value in relation to the zero vertex value and the second vertex value, wherein the first differential

geometric value and the second differential geometric value are independent of a parameter slope between the zero vertex value and the second vertex value;

generating a third differential geometric value and a fourth differential geometric value in relation to the first vertex value and the second vertex value, wherein the third differential geometric value and the fourth differential geometric value are independent of a parameter slope between the first vertex value and the second vertex value;

writing the first geometric value and the second geometric value to a temporary buffer.

19. (original) The method of clam 18 wherein the zero vertex value includes a first_plane zero_vertex parameter and a second_plane zero_vertex parameter, the first vertex value includes a first_plane first_vertex parameter and a second_plane first_vertex parameter, and the second vertex value includes a first_plane second_vertex parameter and a second_plane second_vertex parameter.

20. (original) The method of claim 18 further comprising:

reading the first differential geometric value and the second differential geometric value from the temporary buffer; and

on a pixel by pixel basis, determining a pixel value for each of a plurality of pixels based on a vertex parameter value, a first geometric value and a second geometric value, wherein the first geometric value and the second geometric value are determined based on the first differential geometric value, the second differential geometric value, the third differential geometric value and the fourth differential geometric value.

21. (previously presented) The method of claim 20 wherein the step of determining the pixel value further includes the pixel value based on a first differential value and a second differential value.

22. (original) The method of claim 21 wherein the pixel value is determined based on the product of the first differential value and the first geometric value combined with the product of the second differential value and the second geometric value combined with the vertex parameter value.

23. (previously presented) A method for interpolating pixel parameter values based on a plurality of vertex values, the method comprising:

operating in a setup mode and while in a setup mode:

generating a plurality of differential geometric values for the plurality of vertex values based on a zero vertex value, a first vertex value and a second vertex value, wherein the plurality of differential geometric values are independent of a parameter slope between the plurality of vertex values;

writing the plurality of differential geometric values to a temporary buffer; and

switching to a calculation mode and while in a calculation mode:

reading the plurality of differential geometric values from the temporary buffer; and

determining an interpolated pixel parameter value for each of a plurality of pixels based on a first geometric value adjusted by a first differential value and the second geometric value adjusted by a second differential value such that the

interpolated pixel parameter value is determined based on the product of the first differential value and the first geometric value combined with the product of the second differential value and the second geometric value combined with the first vertex value, wherein the first geometric value and the second geometric value are determined with respect to the plurality of differential geometric values.

24. (previously presented) The method of claim 23 wherein the step of generating the first geometric value includes:

determining the sum of the product of a first difference and a first differential geometric value and the product of a second difference and a second differential geometric value, wherein:

the first difference is the difference between a first_plane pixel location value and a first_plane zero_vertex parameter;

the first differential geometric value is the difference between a second_plane zero_vertex parameter and a second_plane second_vertex parameter;

the second difference is the difference between a second_plane pixel location value and a second_plane zero_vertex parameter; and

the second differential geometric value is the difference between the first_plane zero_vertex parameter and a first_plane second_vertex parameter; and

determining the sum of the product of the first difference and a third differential geometric value and the product of the third difference and a fourth differential geometric value, wherein:

the third differential geometric value is the difference between a second_plane first_vertex parameter and the second_plane zero_vertex parameter; and

the fourth differential geometric value is the difference between a first_plane first_vertex parameter and the first_plane zero_vertex parameter.

25. (original) The method of claim 24 wherein the first differential value is the difference between a second vertex value and the first vertex value, the difference divided by a twice_area value and the second differential value is the difference between a third vertex value and the first vertex value, the difference divided by a twice_area value.

26. (original) The method of claim 25 wherein the twice_area value is a difference between a product of a difference between the first_plane second_vertex parameter and the first_plane zero_vertex parameter and a difference between the second_plane first_vertex parameter and the second_plane zero_vertex parameter and a product of a difference between the first_plane zero_vertex parameter and the first_plane first_vertex parameter and a difference between the second_plane zero_vertex parameter and a second_plane second_vertex parameter.

27. (new) The method of claim 1 wherein the system includes a processor.